

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A numerical value control system that controls a machine tool, by calculating a move command from a work program or a work data for a numerical value control unit, the numerical value control system comprising: and directly inputting the move command to a servo control section within the numerical value control unit from the outside of the numerical value control unit

servo motors for controlling movements of the machine tool;

a binary data preparing unit that includes a work data analyzing unit for analyzing a program or a data including a CAD (Computer Aided Design) program or a CAD data, an interpolating unit for carrying out interpolation for each axis based on output information from the analyzing unit and cut conditions, an accelerating/decelerating unit for generating speed information per unit time in advance by processing an output of the interpolating unit, and a feed-forwarding unit for carrying out feed-forward compensation to an output of the acceleration/deceleration unit;

a database unit that includes a memory unit for storing data prepared by the binary data preparing unit; and

an NC unit that includes a buffer memory unit for storing an output data from the database unit, a machine control section for managing and delivering the data within the buffer

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memory unit, a servo control section for controlling the servo motors based on the data delivered from the machine control section, and a work program analyzing unit for analyzing a work program, wherein

~~the numerical value control system comprises at the outside of the numerical value control unit: a analyzing unit which analyzes a work program or a work data; and an interpolating unit which carries out interpolation for each axis in a position control period of the servo control section based on output information from the analyzing unit and cut conditions, the machine control section is configured to be capable of using the data including whereby the numerical value control system controls a machine tool by directly inputting a move command of a binary format prepared in advance and stored in the database unit, instead of analyzing a work program at the work program analyzing unit by the interpolating unit, to the servo control section within the numerical value control unit.~~

2. (original): The numerical value control system according to claim 1, wherein the numerical value control system comprises at the outside of the numerical value control unit: a speed information generating unit which generates speed information per unit time in advance by carrying out acceleration/deceleration processing to interpolation data output from the interpolating unit, whereby the numerical value control system controls a machine tool by directly inputting a move command of a binary format including the speed information prepared in advance by the speed information generating unit, to the servo control section within the numerical value control unit.

3. (original): The numerical value control system according to claim 2, wherein the numerical value control system comprises at the outside of the numerical value control unit: a feedforwarding unit which absorbs a delay of a servo system in data output from the speed information generating unit, whereby the numerical value control system controls a machine tool by directly inputting a move command of a binary format prepared in advance by the feedforwarding unit, to the servo control section within the numerical value control unit.
4. (original): The numerical value control system according to claim 1, wherein the numerical value control system comprises at the outside of the numerical value control unit: a database unit having a database memory unit for storing a move command in a binary format, cut conditions attached to the binary data, and a work program or a work data for controlling a numerical value that becomes the basis of the binary data, by preparing these data in a database; and database managing unit which manages the database memory unit, in such a way that the database unit can carry out data communications with the numerical value control unit.
5. (currently amended): A numerical value control processing method that controls a machine tool, by calculating a move command from a work program or a work data for a numerical value control unit, ~~and directly inputting the move command to a servo control section within the numerical value control unit from the outside of the numerical value control unit,~~ the numerical value control processing method comprising the steps of:

preparing a binary data by analyzing a work program or a work data including a CAD
(Computer Aided Design) program or a CAD data, and carrying out interpolation for each axis in
a position control period of the servo control section based on analysis information and cut
conditions, generating speed information per unit time in advance by processing an output of the
interpolation, and carrying out feed-forward compensation to the generated speed information;
storing the binary data including a move command of a binary format prepared in
advance prior to a processing, at the outside of the numerical value control unit; and
controlling a machine tool by using the stored binary data, without analyzing the work
program at the same time directly inputting a move command of a binary format prepared in
advance by the interpolation calculation, to the servo control section within the numerical value
control unit.

6. (original): The numerical value control processing method according to claim 5, comprising the steps of: generating speed information per unit time by carrying out acceleration/deceleration processing to interpolation data prior to a processing, and preparing a move command of a binary format including the speed information prior to a processing, at the outside of the numerical value control unit; and controlling a machine tool by directly inputting the speed information and the move command to the servo control section within the numerical value control unit.

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7. (original): The numerical value control processing method according to claim 5, comprising the steps of: carrying out a feed-forward compensation calculation for absorbing a delay of a servo system in a move command, prior to a processing, at the outside of the numerical value control unit; and controlling a machine tool by directly inputting the feed-forward-compensated move command of a binary format, to the servo control section within the numerical value control unit.

8. (original): The numerical value control processing method according to claim 5, comprising the steps of: storing a database of a move command in a binary format, cut conditions attached to the binary data, and an NC unit work program or a work data that becomes the basis of the binary data, at the outside of the numerical value control unit; and controlling a machine tool by directly inputting the data of the database, to the servo control section within the numerical value control unit.